

## **REMARKS**

Applicant's counsel thanks the Examiner for the very careful consideration given the application. Applicant's counsel notes with appreciation the allowance of claims 1-7. The nonelected claims have now been canceled without prejudice. Present claim 8 has been amended and new claims 26-33 have been added. Support for the present amendments and new claims is as follows. Claim 8-page 7 lines 14-18 and claim 10; claim 26-page 7 line 19; claim 27-page 12 lines 9-10; claim 28-page 7 line 3; claim 29-page 7 line 30-page 8 line 2; claim 30-page 6 line 14; claim 31-page 6 lines 14-15; claim 32-page 6 line 15; claim 33-page 6 lines 9-12.

As noted above, old claim 10 now resides in amended claim 8 (claim 8 was then further amended). Old claim 10 was rejected under Section 103 as unpatentable over Seuter in view of Tateiwa in further view of Matsuo. Claim 8 has now been amended to clearly define over Matsuo. Matsuo teaches a phosphor layer which is quite different from Applicant's phosphor layer. In Matsuo's phosphor layer, he first produces a traditional phosphor coating on the inside of the glass envelope and thereafter coats it with a metal alkoxide material; he then applies high heat to heat treat the material and form his final product. This is described in Matsuo at Fig. 14 and also column 7 lines 19-33. The product that results is shown in Matsuo at Fig. 2. In Fig. 2, it can be seen that the phosphor particles (7) are not substantially uniformly coated with the yttria material (4, 5 and 6). Rather, the yttria material in the inner areas (6) acts as spacers between the various phosphor particles (7). Applicant's claim 8 has now been amended to clearly define over Matsuo by providing the following limitation: "each of said phosphor particles having a yttria film substantially uniformly coated over its surface". As can be seen, claim 8 now requires that each phosphor particle be "substantially uniformly coated" with a yttria film; as shown in Fig. 2 of Matsuo, each phosphor particle is clearly not "substantially uniformly coated", since substantial portions of many phosphor particles are completely uncoated with yttria material. When one compares how Matsuo makes his product with how Applicant produces his product, it becomes clearer why the resulting products are so different. As described above, Matsuo forms his original phosphor layer independently and only later coats it with his yttria precursor material and thereafter heat treats it. In contrast, Applicant dissolves yttria salt into an aqueous solution and thereafter introduces the phosphor particles into the solution and mixes it, resulting in each phosphor particle being completely coated with the yttria solution. This suspension is then coated on the inside of Applicant's glass envelope and

baked. This then understandably results in Applicant's product wherein each phosphor particle has a yttria film substantially uniformly coated over its surface. Matsuo does not achieve this result, since his phosphor particles are never placed into a solution or suspension with yttria; rather, his phosphor layer is produced and fixed in place inside the glass envelope before the yttria material is even applied. Based upon the foregoing analysis, it is clear that claim 8 as now amended to include "each of said phosphor particles having a yttria film substantially uniformly coated over its surface" now clearly and definitively defines over Matsuo and accordingly should be allowed.

There is another reason why claim 8 as now amended defines over the applied references and that is because the Tateiwa and Matsuo references, which were combined to reject original claim 10, are not properly combinable. Tateiwa teaches adding yttria powder to the phosphor layer (col. 3 lines 17-20) and at column 3 lines 28 et seq., states that the yttria powder "can suppress the deterioration of the phosphors caused by sputtering, adsorption of mercury and a mercury ray of 184.5 nm wavelength, etc., during the lightening of the discharge lamp, leading to a remarkably improved luminous flux maintenance of the lamp." Matsuo is, by way of heat treatment, forming yttria in the phosphor layer to do the same thing, that is, protect the phosphor particles from adsorption of mercury. This is stated very clearly in Matsuo at column 6 lines 18-21, where it states "As seen from FIG. 11, the lamp formed with the metal oxide film has a very small amount of mercury intrusion and has the effect of preventing adsorption of mercury to the phosphor grains". Thus, the purpose of the yttria in Tateiwa is to protect the phosphor particles from adsorption of mercury and the purpose of the yttria in Matsuo is also to protect the phosphor particles from adsorption of mercury. They both teach the same thing; use of yttria to protect phosphor particles from adsorption of mercury. Since they both teach the use of yttria for the same thing, there is no reason to combine the references, rather, a person of ordinary skill in the art would choose one reference or the other. When a person of ordinary skill in the art is presented with the problem of protecting phosphor particles from adsorption of mercury, he will choose a solution to that problem from the solutions which are available, but he will not choose to solve the same problem twice. Thus, a person of ordinary skill in the art would choose Tateiwa to solve his problem, or he would choose Matsuo to solve his problem, but he would not choose both Tateiwa and Matsuo to solve his problem; he would only choose one or the other. Accordingly, Tateiwa and Matsuo cannot be combined, but must be used one or the other. If Tateiwa is used, the Examiner has already indicated that Tateiwa does not disclose the yttria film coating of old claim 10 (now part of claim 8). If Matsuo is chosen, it does not teach any weight percent for the yttria material. Claim 8 as currently presented clearly requires 0.001-10 weight percent yttria. Matsuo does not teach

this weight percent or any other weight percent. Applicant's 0.001-10 weight percent limitation is a critical limitation in claim 8 and is not merely a matter of design choice. Since this weight percent is critical, it cannot be assumed to be present in the prior art. Since Matsuo does not teach this weight percent, claim 8 as now presented clearly defines over Matsuo. In summary, if Tateiwa is chosen, claim 8's yttria film coating limitation defines over the reference; if Matsuo is chosen, the weight percent limitation defines over the reference. Accordingly, whichever reference is chosen, claim 8 as now presented defines over it and is allowable.

All of the remaining claims are in dependent form and should accordingly be allowable as depending from an allowable base claim.

Since the claims have now been amended to define over the applied references, a Notice of Allowance is appropriate and is respectfully requested.

It appears that through an oversight, Applicant's original Form 1449 was not initialed and returned with the last communication. Applicant has enclosed an extra copy of the Form 1449 filed with the application and requests that an initialed copy be returned with the next communication.

If any further fees are required by this communication, please charge such fees to our Deposit Account No. 16-0820, Order No. 33413.

Respectfully submitted,

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